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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,064	01/15/2002	Robert John Kopmeiners	4-16	5334

7590 03/10/2005  
Docket Administrator  
Agere Systems Inc.  
P.O. Box 614  
Berkeley Heights, NJ 07922-0614

EXAMINER
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AGHDAM, FRESHTEH N

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/047,064	KOPMEINERS ET AL	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 01300298.5, filed on 01/15/2001.

### ***Claim Objections***

Claims 1, 4, and 6 are objected to because of the following informalities:

As to claim 1, the word "generating" should be replaced with "generated" on line 7, page 8.

As to claim 4, the word "filtering" should be replaced with "filtered" on line 7, page 8.

As to claim 6, the expression "the method according to one of the claim 4" is indefinite and should refer to only one of the claims 4 and 5.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

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Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1-6, the preambles of the claims are directed to the method wherein the bodies of the claims are directed to the structure.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claims 3 and 6, the discloser does not describe as how the correlation value is corrected with half the energy of the reference symbol.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al (US Patent 6,763,059).

As to claim 1, Suzuki et al teaches a detection method in a receiver of a digital communication system using a BPSK modulation method wherein a set of pilot symbols (i.e. reference symbols) are generated by channel estimating means 231 to 23K, which are responsive to the outputs of the symbol decorrelating means 211 to 21K wherein the received symbols are compared with predetermined symbols through correlating means 211-21K and 241-24K (Fig. 6; Col. 5, Lines 51-58).

As to claim 2, Suzuki et al teach step of generating a correction signal 221 on the basis of the detected symbols  $f_1$  to  $f_k$  and corresponding channel estimated values  $g_1$  to  $g_k$  on the basis of the detected symbols being convolved with the channel estimated values wherein the correction signal being subtracted from the received signal prior to symbol detection for suppressing the Inter-Symbol Interference effect (i.e. ISI effect) (Fig. 7; Col. 6, Lines 6-19; Col. 2, Lines 15-19).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bar-David et al (US Patent 5,623,511) and further in view of Suzuki et al.

As to claim 4, Bar-David et al teach a detection method in a receiver of a digital communication system using a PSK modulation method wherein the received signal is filtered by a filter signal wherein the filter is a matched filter 650 and 660 to the channel impulse response between the transmitter and the receiver wherein each of the successive parts of the filter signal having the length of a symbol (Fig. 6; Col. 12, Lines 15-31). Bar-David et al is silent about each part of the filter signal being compared to each of the symbols from the predetermined set of symbols yielding a detected symbol for each part of the filter signal. Suzuki et al, in the same field of endeavor, teach that the received symbols are compared with predetermined symbols through correlating means 211-21K and 241-24K (Fig. 6; Col. 5, Lines 51-58). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Suzuki et al with Bar-David et al in order to collect the appropriate energy into each sample (Col. 11; Lines 10-12).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bar-David et al and Suzuki et al, further in view of Dabak et al (US Pub. 2004/0101032).

As to claim 5, Bar-David et al and Suzuki et al teach all the subject matters cited in claim 4. Suzuki et al teach a correction signal generated based on the detected symbol. Suzuki et al is silent about the correction signal being subtracted from the part of filter signal, which succeeds the part of the filter signal corresponding to the detected

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symbol for suppressing the ISI effect. Dabak et al, in the same field of endeavor, teach a parallel interference cancellation circuit (Fig. 8; Pg. 5, Par. 46) wherein the result of the symbol decision block 818 is subtracted from the output of the matched filter 800 (i.e. the correction signal being subtracted from the part of filter signal, which succeeds the part of the filter signal corresponding to the detected symbol).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gifford et al (US Patent 6,836,507), Sriram et al (US Patent 6,836,507), Bottomley (US Patent 6,363,104), Andren et al (US Patent 6,678,310).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam

March 6, 2005

  
**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**

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